Conclusions: Preliminary results showed acute breast edema in 1 out of 4 breast cancer patients undergoing irradiation after any surgical treatment and is more common after neo-adjuvant chemotherapy. Updated results with a larger sample size and longer follow-up, as well as data on quality of life, pain and cosmetic results in association with acute and chronic breast edema will be presented at the ESTRO conference.

PD-0432

Preoperative radiotherapy in breast cancer patients: 32-year follow-up

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Purpose/Objective: First, to assess the long-term outcome of a retrospective cohort of 187 breast cancer (BC) patients who received pre-mastectomy radiotherapy. Second, to analyze predictive factors for disease-free survival (DFS) and overall survival (OS).

Materials and Methods: From 1970 to 1984, 187 consecutive BC patients were treated with pre-mastectomy hypofractionated radiotherapy on whole breast, supraclavicular fossa, axilla +/- ipsilateral internal mammary lymph nodes (45-55Gy/18 fractions/34 days, IQR [31-36]). None received neo-adjuvant systemic treatment. Histology was centrally reviewed for the purpose of the present study. Local recurrence (LR), DFS and OS were estimated using the Kaplan-Meier method, survival comparisons by log-rank test, and prognostic factors by multivariable Cox models stratified on age.

Results: Most patients (88%) had an early stage BC, characterized at that time by rapid growth (clinical doubling time < 6 months), and 122 (65%) were clinically N+. BCs were mainly T2 (91%) with some T3 (1%) and T4 (8%) tumours. Among the 166 reanalyzed biopsies 22% were triple negative, 17% HER2 positive and 31% grade III. The median age was 49 years [43-60]. ypT0, defined as the absence of residual invasive disease in the mastectomy specimen, was achieved in 26 patients (14%) and in 29% of triple negative patients. Pathological complete response defined as ypT0 + ypN0 was achieved in 18 patients (10%). The rate of ypT0 was linked to ypN0 status (OR=3.5, IC95% [1.2-10], p=0.02) and borderline to triple negative tumor status (OR=2.4, [0.9-6.7], p=0.08). The postoperative complication rate was 20% (37/187) with 4.3% of skin necrosis (8/187). Adjuvant chemotherapy was delivered to 31% of patients.

With a median follow-up of 32 years [23-35], the 10- and 25-year rates were 9% [5% -15%] and 11% [7%-18%] for LR, 47% [40%-54%] and 30% [24%-37%] for DFS, 55% [47%-62%] and 30% [23%-37%] for OS. ypT0 was neither significantly related to LR, nor to DFS or OS. Triple negative patients experienced significantly more LR (HR=4.9 [1.2-21], adjusted on pN status). In the multivariable analysis on OS, pN status (HR= 1.69, [1.28-2.22], p=0.0002), triple negative status (HR=1.80, [1.00-3.26], p=0.05) and HER2 status after 50 years (HR=3.46, [1.80-6.66], p=0.0002; test of interaction before 50 vs. after 50, p=0.01) had significant prognostic impact.

Conclusions: Long-term local control achieved by preoperative hypofractionated radiotherapy followed by radical mastectomy was excellent, with an acceptable rate of postoperative complications. These results might help identify subpopulations able to benefit from preoperative radiation therapy.

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Acute and late complications of radiotherapy in women with implant-based breast reconstruction

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Purpose/Objective: Radiotherapy of breast cancer patients with a tissue expander / implant (E/I) is a challenging intervention due to possible complications. Capsular fibrosis is one the most important side effects. It may lead to removal or exchange of the E/I (reconstruction failure). Other complications such as breast / chest wall pain and lymph edema can also considerably decrease the quality of life (QoL) of these women. The main purpose of this analysis was to assess the incidence and severity of acute and late local toxicity as well as the rate of reconstruction failure. An additional aim was to examine QoL and patient satisfaction with the breast reconstruction.

Materials and Methods: We identified 58 women (age 33 – 74 at the time of radiotherapy) with E/I who were treated with radiotherapy due to breast cancer at our institution between February 2000 and December 2013. Among them, 52 had a mastectomy with primary breast reconstruction and 6 already had breast implants for cosmetic reasons before first diagnosis of breast cancer. The total radiotherapy dose was between 50 and 60.4 Gy (single dose 1.8 or 2 Gy). Acute and late side effects were scored according to CTCAE v.4.03. To investigate QoL and satisfaction with the breast reconstruction the EORTC questionnaires QLQ-C30 / QLQ-BR23 as well as three additional questions were used. Median follow up was 2.3 years.

Results: The most common acute side effects were radiation dermatitis (91.4 %), skin hyperpigmentation (46.6 %), breast / chest wall pain (24.2 %) and lymph edema (13.7 % in the breast/chest wall, 6.8% in the arm). As late complications, we observed most frequently skin hyperpigmentation (34.5 %), breast / chest wall pain (22.4 %) and lymph edema (6.8 % in the breast / chest wall, 18.9 % in the arm). Severe capsular fibrosis (Baker grade III and IV) occurred in 25.1 % of the women. Reconstruction failure was detected in 25.9 % and only during the first 4.6 years after radiotherapy. Compared to EORTC reference values for breast cancer patients, our patients showed similar outcome for QoL. Most women were well (55.0 %) or moderately (35.0 %) satisfied with their breast reconstruction and 75.0 % would choose the same way of breast reconstruction again.

Conclusions: There are no established risk factors for complications in patients with E/I after radiation therapy. Thus, women suffering from breast cancer have to be well educated about potential risks by primary implant-based breast reconstruction and adjuvant radiotherapy. It is very important that a multidisciplinary team together with the patient finds the best individual approach for cancer treatment and breast reconstruction when mastectomy and radiotherapy might be necessary.